# BIOMA Fuel Measurement and Sampling Questionnaire

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| **BIOMA Fuel Measurement and Sampling (FMS) Questionnaire Guidance** | |
| **Overview** | The submission and approval of this supplementary document forms part of the Renewables Obligation (RO) and Climate Change Levy (CCL) accreditation process for generating stations proposing to use the BIOMA software (BIOMA) as part of their FMS procedures.  This supplementary FMS document should be completed alongside the relevant RO and CCL FMS questionnaire. The purpose of the questionnaire is to ensure that the use of BIOMA is applicable to the generating station and fuels in question, and that key data inputs have been recorded correctly.  Generating stations wishing to use BIOMA will need to demonstrate that it is applicable to their technology type and the waste fuels used. Our independent technical assessment has highlighted that all verifications of BIOMA, to date, have been based on standard combustion processes. It is also necessary that the data inputs required by the software have been recorded accurately.  This questionnaire relates only to the determination of the contamination percentage and as such is required to be submitted as a supplementary document to the appropriate FMS questionnaire. The agreement of FMS procedures is required in order to substantiate the figures submitted as part of monthly data submissions for certificate issue.  You will need to ensure the procedures are capable of providing accurate and reliable results to support your monthly data submissions. After the first submission of your questionnaire(s), Ofgem will assist with any query you have in the process of developing the procedures outlined in your initial proposal.  Although additional documents may be submitted to provide further information regarding your proposed FMS procedures, it is essential we have a concise record of your FMS procedures and as such this document must be completed fully and approved by Ofgem as part of the accreditation application process.  Before completing this document, please consult our ‘Renewables Obligation: Fuel measurement and sampling guidance’ document, which can be downloaded from the ‘Fuelled Stations and Sustainability: Fuel Measurement and Sampling’ page of the Ofgem website, [here](http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/FuelledStations/Pages/FS.aspx). |
| **Questionnaire Completion** | Please provide a suitable level of detail when answering questions in order to clearly outline your procedures. This will aid Ofgem in the review of your proposal and reduce unnecessary delays in the approval process. The size of the text box available for response should indicate the length of reply expected. However, if additional space is required in order to answer a question, this is available in section E.  Some questions are compulsory for all generating stations. Compulsory questions must be answered and are marked with a **🏱** symbol.Copying and pasting can be undertaken using the Ctrl+C (copy) and Ctrl+V (paste) keys (you cannot right click in text boxes to copy and paste). The drop down menus embedded within this questionnaire may not function in versions of Word 2003 and older. Please contact Ofgem if you require a compatible document.  When making reference to any industry standards please include the name, issuing body and the reference number of the standard. |
| **Questionnaire** **Submission** | This supplementary FMS document should be submitted for review via e-mail, alongside the relevant accompanying FMS questionnaire, to: [renewable@ofgem.gov.uk](mailto:renewable@ofgem.gov.uk).  Please ensure the title of the questionnaire includes the name of the generating station, as it appears on the Renewables and CHP (R&CHP) register and the version number e.g. revision (rev) 1. |
| **Contacting Ofgem** | For queries relating to FMS, please contact the Fuelling and Sustainability team on:   * E-mail: [renewable@ofgem.gov.uk](mailto:renewable@ofgem.gov.uk) / Telephone: 020 7901 7310.   Once you have submitted your FMS questionnaire, correspondence should take place directly with the member of staff handling your FMS procedures. |

## Section A – Application Information and Suitability of BIOMA

Please provide the following general information regarding the generating station and waste fuel(s) used. This is required to determine if BIOMA is suitable to determine the biogenic content of your waste fuel(s).

1. Name of generating station (as appears on the R&CHP register) **🏱**



1. State all fuel(s) used at your generating station. For waste fuels, state the type e.g. Municipal Solid Waste (MSW), Commercial and Industrial (C&I) etc. Please also include fuels used for ancillary purposes[[1]](#footnote-1) **🏱**



1. If you have stated that Non Fossil Oil/Bio-plastic, Peat or Brown Coal will be used, will more than 20% (by mass) of either fuel be used in any one month? Choose an item

The assumed waste composition within BIOMA is for wastes of mixed origin. Therefore where this is not the case, the use of BIOMA to determine biogenic content may not be applicable. In this instance we may require additional validation of results against an alternative means of biogenic content determination.

1. Confirm that you have checked the assumptions used in the balance method and BIOMA software and that these are applicable to your generating station **🏱** Check box to confirm this is the case
2. Is the data used for BIOMA and its results subject to any other requirements e.g. EU ETS[[2]](#footnote-2) purposes, EA[[3]](#footnote-3)/National emission control requirements? If so, please give details below



## Section B – Version History

This section should only be completed for any revisions made **after the initial approval of procedures** has been given by Ofgem.

1. Indicate the version number of these FMS procedures N.B. Rev 0 is the procedures as originally approved Version Number
2. State the purpose of this latest revision and indicate the changes made (making reference to specific questions e.g. D3) in the space provided below



## Section C – Data Inputs to BIOMA

Please answer the following questions regarding selected data inputs required by BIOMA:

1. How will the mass of solid residues (ash, slag, gypsum and other solid residues) be measured on a monthly basis? Please address each solid residue in your answer **🏱**



1. Describe how the volumetric flow, oxygen (O2 vol% dry) and carbon dioxide (CO2 vol% dry) content of the flue gas is to be measured. Please provide information on the equipment (and supporting equipment e.g. for water correction) being used as well as the accuracy associated with these measurements **🏱**



1. In relation to the equipment and instrumentation used to measure the properties mentioned in C2, briefly outline the inspection and maintenance measures undertaken to ensure data accuracy. Please refer to any calibration and procedures used to ensure metering points are suitable for accurate and reliable sampling. Where appropriate make reference to the use of any recognised standards e.g. EN 14181 **🏱**



1. State the frequency with which these measures are undertaken **🏱**



1. BIOMA requires the O2 and CO2 vol% in the flue gases, to be given on a ‘dry’ basis. If these measurements are made on a ‘wet’ basis, state how they are converted to a dry basis[[4]](#footnote-4)



1. State any chemicals used in flue gas treatment and their effect on the measurements of the properties mentioned in C2 **🏱**



1. Outline how you will determine a representative efficiency figure for the boiler on a monthly basis **🏱**



1. State the supporting evidence you will be able to provide, each month, for the representative boiler efficiency **🏱**



For the data inputs required by BIOMA not covered by the above questions, it is expected that these will be measured according to established industry standards and an acceptable level of accuracy. If selected for audit you may be asked to demonstrate as such.

## Section D – Reporting

Please outline how you intend to report the contamination percentage and other results from BIOMA to Ofgem. Best practice is for results from BIOMA to be provided in the form of a report from a third party organisation.

1. Will you be using an independent third party organisation to verify and report your results? **🏱** Choose an item
2. If you have answered ‘Yes’ to D1, which organisation is to be used and will this be on a monthly or annual basis?



Please note, where applicable, submitting data on the R&CHP register and evidence to monthlyoutputdata@ofgem.gov.uk is a monthly requirement upon the generator. Question D2 however, refers to how often a third party organisation may be used to verify and report the results from BIOMA to and does not replace the monthly requirement.

1. Fossil fuel used for ancillary purposes[[5]](#footnote-5) may affect the BIOMA result. Will you be correcting the contamination percentage to account for this? Choose an item
2. If you have answered ‘Yes’ to D3, how will this be undertaken?



1. In what format do you intend to provide evidence of the Qualifying Percentage result to Ofgem? **🏱**



You will need to submit an example of the information you intend to use as supporting evidence along with this completed questionnaire.

1. Will BIOMA be used to report the calorific value of the waste fuel(s)? **🏱** Choose an item
2. If you have answered ‘Yes’ to D4, will this be on a net calorific value (NCV) or gross calorific value (GCV) basis[[6]](#footnote-6)? Choose an item

## Section E – Additional Information and Answer Space

Please use this space to include any other details you feel are relevant to your application. If you are using the answer space to expand on any of the answers provided above, make clear reference to the question you are answering by including the question number at the start of your response e.g. D3



Thank you for completing the Ofgem BIOMA FMS Questionnaire. Please review your answers and ensure you have answered all compulsory questions (marked with **🏱** symbol) and a suitable level of detail has been provided. Upon submission of this document, a member of the Fuelling and Sustainability team will make contact with you in due course.

1. Fuels used for ancillary purposes according to Article 22(3) of the RO Order (ROO) and Renewable Obligation Scotland (ROS) Order, Article 21(3) of the Northern Ireland Renewables Obligation (NIRO) Order and Regulation 47(10) of the CCL Regulations [↑](#footnote-ref-1)
2. European Union Emissions Trading Scheme [↑](#footnote-ref-2)
3. Environment Agency [↑](#footnote-ref-3)
4. The calculation of the water content of the flue gases should be included in your response. [↑](#footnote-ref-4)
5. Article 22(3) of the ROO and ROS, Article 21(3) of the NIRO and Regulation 47(10) of the CCL Regulations. [↑](#footnote-ref-5)
6. Under the Climate Change Levy, both NCV and GCV are acceptable. For the RO, ROS and NIRO a GCV is required. [↑](#footnote-ref-6)